

**Spill Prevention, Control, and Countermeasure
Plan
&
Spill Contingency Plan
for the
Environmental Laboratory**



US Army Corps
of Engineers
New England Division

January 1997

**SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN
&
SPILL CONTINGENCY PLAN**


LOCATION:


ENVIRONMENTAL LABORATORY
AT BARRE FALLS DAM
BARRE, MASSACHUSETTS

PREPARED BY:

ENGINEERING DIRECTORATE
WATER CONTROL DIVISION
ENVIRONMENTAL ENGINEERING
AND HYDRAULICS BRANCH

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**US Army Corps
of Engineers**
New England Division

SPCCP CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER

CERTIFICATION: I hereby certify that I have examined the SPCCP/SCP for the Environmental Laboratory, and being familiar with the provisions of 40 CFR Part 110, 112, 116, 117, 300, 302, and 355 attest that this SPCCP has been prepared in accordance with good engineering practices.

PROFESSIONAL ENGINEER:

SIGNATURE: Jan T. Orgerley DATE: Feb 3 1997
LICENSE NUMBER: 31806 STATE: MA

RECERTIFICATION FOR AMENDMENTS BY REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER:

SIGNATURE: _____ DATE: _____
LICENSE NUMBER: _____ STATE: _____

REVIEW DATES FOR ENVIRONMENTAL LABORATORY SPCCP

January 2000 _____
January 2003 _____
January 2006 _____

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN
(SPCCP)
&
SPILL CONTINGENCY PLAN
(SCP)

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**SPILL PREVENTION, CONTROL, AND COUNTERMEASURES PLAN
&
SPILL CONTINGENCY PLAN**

1. INTRODUCTION

This document is a Spill Prevention, Control, and Countermeasure Plan (SPCCP) and a Spill Contingency Plan (SCP) for the New England Division (NED) Environmental Laboratory. This plan provides for an efficient, coordinated, and effective response to oil and hazardous substance discharges and also addresses the prevention of such discharges. Included in the plan is a description and location of the Environmental Laboratory at Barre Falls Dam, responsibilities of New England Division and laboratory personnel, potential spill hazards at the laboratory, and procedures to prevent and control spills there. Training requirements for personnel at the laboratory, and recommendations on how the laboratory can improve its prevention of and response to spills of oil and hazardous substances are listed in the plan.

The response by personnel at Corps projects to oil and hazardous substance incidents can mean the difference between a safely executed emergency operation and serious injury or death. Such incidents may occur on the civil works property or close to the property so as to threaten it. Incidents may occur as a result of an accidental release of materials stored or used at the Environmental Laboratory, industrial and transportation accidents, or illegal disposal. Appropriate responses to incidents require identifying the hazardous substances, implementing preventative measures, planning for the emergency, and training in execution of the plan.

2. DEFINITIONS

Definitions of terms and acronyms used in this plan are listed in the Glossary in Appendix P.

3. PURPOSE

This Spill Prevention, Control, and Countermeasure Plan (SPCCP) and Spill Contingency Plan (SCP) follows U.S. Environmental Protection Agency (EPA) regulations under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Clean Water Act (CWA). The appropriate regulations are 40 CFR 110, 112, 116, 117, 300, 302, and 355.

The SPCCP/SCP serves as project contingency and action plan for response to discharges and releases of oil and hazardous substances at New England Division's Environmental Laboratory. Policies, responsibilities, and procedures for the prevention and control of spills of oil and hazardous substances are prescribed. The plan is also intended to limit the risk of discharges of oil and hazardous substances into the environment.

4. POLICY

a. It is the policy of the U.S. Army Corps of Engineers, New England Division (NED), under ER 500-1-1, to prevent spills of petroleum fluids, chemicals, and hazardous substances, including extremely hazardous substances, that may be present at Corps civil works projects, and to provide for a prompt, coordinated response to contain and clean up spills that might occur. The Environmental Laboratory is located at Barre Falls Dam which is one of NED's civil works projects.

b. Unpermitted willful discharges from Corps-operated facilities, activities, or vessels are prohibited.

c. In the event of a spill emergency, the following protection priorities are hereby established as a guideline for spill responders:

- Human life and health
- Environment
- Property and structures

d. Laboratory personnel will only respond to spills when it is reasonably safe to do so, and to the level that they are adequately trained and equipped.

e. Laboratory personnel will not respond at a level higher than the "First Responder, Operations Level" (as defined in 29 CFR 1910.120(q)(6)(ii), Appendix I), unless authorized by the Division Commander, and appropriately trained to do so.

5. ASSUMPTIONS

a. This plan is in effect and implemented continuously.

b. Laboratory personnel routinely take steps to develop and maintain secondary containment for the oil and hazardous substances at the Environmental Laboratory. Personnel follow

SPCCP/SCP guidelines when dealing with oil or hazardous substance spills at the laboratory.

c. Laboratory personnel shall use rapid communication, as defined in paragraph 11d of this plan, to inform responsible officials in order to obtain a fast, appropriate response.

d. Containers are assumed to be full unless identified as empty by label or context.

e. The Laboratory Director is responsible for site spill prevention at the Environmental Laboratory.

6. PROJECT DESCRIPTION AND LOCATION

The New England Division's Environmental Laboratory, located at Barre Falls Dam, provides support to several Corps offices, including NED, in testing both environmental and hazardous samples for desired constituents.

Barre Falls Dam and reservoir are located in the north-central part of Massachusetts, in the towns of Barre, Hubbardston, Oakham, and Rutland, approximately 35 miles west of Boston, 18 miles northwest of Worcester, and 18 miles southwest of Fitchburg (see figure 1, Appendix A for location map).

7. RESPONSIBILITIES

a. Commander

(1) Exercise overall control of Division facilities, NED personnel, and contractor personnel managing or handling oil and hazardous substances.

(2) Support programs and budgets for personnel, materials, equipment, and training required for oil and hazardous substances spill prevention, control, and countermeasures.

(3) Review SPCCP/SCP to determine whether the plan meets criteria specified in applicable Federal and State Regulations.

(4) Approve communication plans and policy leading to the release of information to the public in the event a spill should pose an imminent threat to public health and welfare, or the environment. The Chief, Public Affairs Office is the primary staff element responsible for

coordinating and reviewing all Division public information materials.

(5) Authorize emergency spill responses to non-Corps spills off Corps property.

b. Director of Engineering

(1) Exercise overall control of New England Division's Environmental Laboratory personnel, including those of the contractor, that manage or handle oil and hazardous substances.

(2) Ensure that spill prevention and cleanups at the laboratory occur according to SPCCP/SCP guidelines.

(3) Ensure that all reportable quantity spills are reported in a timely manner.

(4) Support programs and budgets for personnel, materials, equipment, and training required for oil and hazardous substances spill prevention, control, and countermeasures.

c. Environmental Compliance Coordinator

(1) Review and approve SPCCP/SCP, revisions, and amendments.

(2) Brief the Commander and senior staff on oil and hazardous substance spills and releases, and submit follow up reports to the Commander.

(3) Provide oversight of all programs and projects involving environmental compliance at Corps-owned or operated facilities or projects.

d. Chief, Environmental Engineering and Hydraulics Branch

(1) Prepare SPCCP/SCP and review plans for conformance and compliance with applicable Federal, State, and local regulations.

(2) Execute periodic technical reviews of SPCCP/SCP.

(3) Develop and provide training on prevention, control, and cleanup of spills at the laboratory (refer to paragraph 13 and Appendix O of this plan for further information).

e. Laboratory Director

- (1) Formulate budget for personnel, materials, equipment, and training programs required for oil and hazardous substances spill prevention, control, and countermeasures.
- (2) Provide a written description of each spill beyond secondary containment to the Director of Engineering and Environmental Compliance Coordinator at NED. The description should include corrective action(s) taken and plans for preventing recurrences.
- (3) Prepare and submit a followup report to the Division Commander of any response action taken by Corps personnel. The report must be submitted within four weeks of initial response.
- (4) Manage and oversee spill prevention activities at the Environmental Laboratory.
- (5) Maintain a copy of the SPCCP/SCP on file at the laboratory.
- (6) Ensure that all oil and hazardous substances at the laboratory are handled carefully so the possibility of spills is avoided or minimized.
- (7) Provide secondary containment to prevent release of petroleum liquids, oils, and hazardous substances to the environment (secondary containment includes basins, catchment areas, curbing, dikes, drip pans, relief vessels, vaults, and similar devices).
- (8) Identify and address the laboratory's handling of oil or hazardous substances not included in the SPCCP/SCP.
- (9) Develop and review amendments to the SPCCP/SCP, which may include changes to structures, equipment, and operations within the facility area for handling oil and hazardous substances. Amendments may also include changes to oil or hazardous substance regulations.
- (10) Perform periodic inspections of the facilities to verify compliance with this plan. This should include inspection of oil and hazardous substance handling and storage areas for the presence and readiness of structures, equipment, and materials that are used to prevent, control, and respond to spills. Documentation of such inspections should be kept on file at the laboratory for five years.

(11) Maintain spill equipment and material used for prevention and containment at the laboratory.

(12) Appoint a Chemical Hygiene Officer and Laboratory Safety Committee for technical support.

f. Laboratory Personnel

(1) Follow proper work procedures when handling oil and hazardous substances.

(2) Immediately report any spill occurring on or adjacent to the facility, including spills within or beyond secondary containment. When reporting spills, laboratory personnel will follow the instructions provided in paragraph 11 of this plan.

g. Chief, Public Affairs Office

(1) Release and/or conduct all news releases, photographs, other media briefings, and informational material pertaining to a spill.

(2) Coordinate, release, or conduct (as appropriate) all official public statements, briefings, speeches, responses to media queries, exhibits, and audio-visual materials concerning reportable releases/spills.

(3) Act as the Division's public information control point during mobilization and emergency activities.

h. Safety and Occupational Health Manager

(1) Assist the Division Commander in determining the appropriate level of emergency spill response to be provided at Corps-operated facilities.

(2) Provide support to the project team to ensure qualified non-Corps spill response resources are fully used in order to minimize risk to in-house personnel.

(3) Manage the Medical Surveillance Program to include, as appropriate, personnel assigned as first responders.

8. POTENTIAL SPILL HAZARDS

a. Routine Activities. Typical activities at the Environmental Laboratory include shipping and receiving hazardous chemicals used in laboratory testing, testing environmental and hazardous samples, and handling hazardous

waste. These activities require the handling of chemicals and hazardous materials; a spill or leak of these products could occur when activities are being performed.

Hazardous wastes, generated by laboratory personnel during testing, are stored in two waste sheds located behind the laboratory. The Environmental Laboratory manifests and disposes of the waste using a licensed contractor.

The Environmental Laboratory is registered as a small quantity generator of waste with the Environmental Protection Agency (EPA). This registration, as a small quantity generator, addresses the issue of generating, handling, and disposing waste by laboratory personnel. The project's EPA small quantity generator ID number is MA796001268.

(Note: Barre Falls Dam flood control project has its own EPA generator number and disposes of its own wastes).

b. Oil Tanks. Petroleum product storage tanks are listed in Appendix B, "Oil Storage Tank Inventory," which includes tank number, location, capacity, installation date, type, material of construction, fuel type stored in tank, purpose of fuel or usage, and whether the tank has secondary containment, leak detection, or cathodic protection. Locations of these storage tanks are shown on figure 3 in Appendix A. A description of the physical setup and operation conducted at each storage tank follows. The description includes potential spill situations, secondary containment provided, and description of where the spill would flow. Note that piping to and from the oil tanks is not addressed under potential spill situations.

<u>Tank</u>	<u>Description</u>
EL1	-- 330 gallon above ground storage tank. -- Located outside Environmental Laboratory building. -- Double wall steel construction. -- Contains #2 fuel oil for heating. -- Secondary containment by epoxy coated concrete dike. -- Leak from tank would collect within concrete barrier dike. -- Spill while filling EL1 would enter the soil behind the office. -- This tank is maintained by the Barre Falls Dam project and is addressed in their SPCCP, available on site.

- EL2
- 275 gallon above ground storage tank.
 - Located in the basement of the old project manager's house.
 - Single-wall steel construction.
 - Contains #2 fuel oil for heating.
 - Secondary containment by epoxy coated concrete dike.
 - Leak from EL2 would collect within the concrete barrier dike.
 - A catastrophic spill while filling, such as an oil tank truck rupturing and spilling its entire contents, would cause oil to flow along the driveway, onto the lawn, and eventually onto Route 62.

c. Hazardous Material Storage. The central hazardous materials storage area for the laboratory is located in the garage behind the laboratory; this garage has no engineered ventilation system. One 45- and three 60-gallon flammable storage cabinets are located in the rear of the garage. Two of the 60-gallon cabinets and the 45-gallon cabinet contain gasoline used for generators and flammable chemicals such as acetone, methanol, methyl alcohol, and hexane. No more than three flammable storage cabinets, containing not more than 60 gallons each of Classes I or II (acetone and hexane) or 120 gallons of Class III liquids shall be stored in the chemical storage areas. Cabinet vents are sealed with bung plugs, leaving the cabinets without ventilation. These cabinets are grounded to the structural steel of the building. Excess methylene chloride is stored in its shipping container on a secondary containment pallet in the garage. An acid storage cabinet holds acids and bases.

The storage cabinets and secondary containment pallet are designed to contain chemicals spilled within them as required in 29 CFR 1910.106(d)(4). The ventilation system in the garage is not an approved system, as defined under NFPA 30, chapter 4-4.1.6 and under EM 385-1-1, section 09.B.24. The ventilation system does not provide an approved component of a contingency plan in case of a spill.

Hazardous materials are also stored in various locations within the laboratory. The laboratory is divided into several smaller labs including the biology, metals prep, organic prep, trace metals, and wet chemistry labs (see figure 4 in Appendix A). In the biology lab, chemicals are stored under the fume hood, with secondary containment, and in desiccators. A locked cabinet contains miscellaneous chemicals including Triphenol Tetrazoleum Chloride (TTC) and a small flammable storage cabinet is used to store small propane cylinders, alcohols, and formaldehyde. Most

flammables in the laboratory itself are stored in the organics lab. Cabinets under fume hoods contain acids, acetone, hexane, methylene chloride, methanol, alcohol, and other hazardous chemicals. The hoods have constant ventilation and flammable storage spaces underneath the hoods are vented. Fume hood cabinets are clearly marked as to which chemicals should be stored in them. This ensures that noncompatible chemicals are kept apart. The metals prep lab contains small quantities of chemicals including concentrated acids, hydrogen peroxide, and oxidizers. The wet chemistry lab contains the bulk of the solid chemicals in wall mounted cabinets. The trace metals lab contains mostly analytical standards. Satellite waste areas are located in the organic and trace metals prep labs, where waste is collected in 15- to 25-gallon shippable containers. Once full, containers are transferred to the central waste storage shed.

In each room, chemicals are handled in the hoods themselves. In general, throughout the laboratory, most chemicals are being stored in plastic tubs for secondary containment. Current practice in the lab is to utilize secondary containment when storing incompatible chemicals in the same cabinet and for glassware containing hazardous materials which are unstable and could tip over.

All containers of hazardous materials and hazardous waste must be identified as required by 29 CFR 1910.1200 Hazard Communication Standard. This label must contain the identity of the contents and appropriate hazard warnings. It is critical that the identity of the chemical be known in case of a spill. During the inspection, chemicals were clearly labeled.

The former dam operator's house is located at the beginning of the access road (see figure 2 of Appendix A). This building is currently used for storage of equipment and supplies by laboratory field personnel. In the garage, a 25-gallon flammable storage cabinet contains small amounts of methanol, propanol, and other chemicals. This cabinet has no open airways to the garage, which is small and has no mechanical ventilation.

A copy of the laboratory's current chemical inventory, stored in the garage and laboratory, is kept in the administrative office on the second floor of the laboratory. The existing inventory, as of 25 January 1997, should be updated before January 1998. In Appendix C of this plan, space is provided for the Laboratory Director to place a copy of the updated chemical inventory. Material Safety Data Sheets (MSDS) for hazardous materials on site are kept in the laboratory library. If there is not an MSDS available, the

chemical may not be used. MSDS sheets are requested for any new chemical at the time of ordering. If an MSDS has not arrived before or at the time of delivery, the order should be refused.

Some items on the current inventory are considered hazardous under 40 CFR 302. The amount of hazardous substance(s) at the laboratory is under most of the Federal Reportable Quantities (RQ).

Under Massachusetts Regulations that govern hazardous materials (310 CMR 40.1600), several chemicals at the laboratory are at or over the RQ. State reportable quantities are lower than Federal for most chemicals. Some products listed are under the Massachusetts RQ, but in a worst case scenario where more than one chemical were to spill, the total combination could be above the RQ. Appendix D contains an inventory of chemicals at the laboratory, reportable quantities for hazardous substances determined by the Massachusetts Department of Environmental Protection, and Federal RQs, as defined and tabulated under 40 CFR 302.

d. Hazardous Waste Storage Shed. Waste generated at the laboratory consists of both hazardous and solid waste. Hazardous waste is currently collected in 15- to 25-gallon shippable plastic drums in the laboratory. Full drums are transferred to the hazardous waste storage sheds. One shed, a small concrete building, is located behind the laboratory at the east end of the garage. It has six small wall vents, three located 3 inches above the floor and three just below the ceiling. Hazardous wastes, primarily corrosives and oxidizers, are stored in 15- to 25-gallon plastic drums on secondary containment pallets. The contents of the shed are inspected weekly. The ventilation system in the shed is not an approved system, as defined under NFPA 30, chapter 4-4.1.6 and under EM 385-1-1, section 09.B.24. The ventilation system does not provide an approved component of a contingency plan in case of a spill. A second hazardous waste shed has been received and is being used for flammable waste storage. The new shed has fire-resistant walls, grounding, ventilation, and built-in secondary containment.

Drums are labeled with all known contents, waste characteristics, and date when first placed in the waste shed. As an EPA small quantity hazardous waste generator, all waste must be shipped from the premises within 180 storage days.

e. Additional Potential Spill Hazards

(1) A hazardous materials leak or spill from vehicles transporting chemical materials to and from the laboratory. Vehicles should be placarded and have copies of manifest/waste profile sheets.

(2) The laboratory emits volatiles including acetone, hexane, methylene chloride, and freon to the air. Massachusetts air quality regulations require facilities to obtain a permit if more than one ton of volatiles are emitted per year. Under the Clean Air Act, permits are required for emissions over threshold quantities. The laboratory estimates weight of volatiles per year and 1996 emissions were under State and Federal limits.

Note: The Environmental Laboratory is located at Barre Falls Dam. Information regarding storage and transportation of oil and hazardous/toxic substances, associated with the flood control project, is not addressed in this report. However, this information is available in the SPCCP/SCP at the Barre Falls Dam project office.

9. EMERGENCY SPILL RESPONSE EQUIPMENT AND MATERIALS

Equipment and materials used for spill response at NED's Environmental Laboratory are listed in Appendix E1. Currently, spill kits including absorbent pads, absorbent pillows, gloves, and "speedi-dry" are located in the individual lab rooms. Spill response materials including absorbent pigs/pads, gloves, absorbent material, drip pans, a neutralizer, emergency checklist, and emergency phone list are available and easily accessible in the hazardous chemical storage and waste storage areas.

The amount of spill response equipment and materials purchased and stored at the laboratory should be no more than what would be required for a response to a worst case scenario of a Corps spill. The equipment and materials stored at the laboratory will be regularly inspected, properly maintained, and regularly serviced by a qualified technician. A checklist for emergency spill response equipment and materials is located in Appendix E2. A training program on use of spill response equipment and materials should be implemented; this is discussed in paragraph 13, TRAINING.

10. HISTORIC OIL AND HAZARDOUS SUBSTANCE INCIDENTS

After reviewing the spill incident files at the Environmental Laboratory and the Massachusetts Department of

Environmental Protection (MA DEP), Central Region Office in Worcester, MA, the following statements are presented:

a. There are no known occurrences of oil or hazardous substance spills on Corps property at the laboratory prior to 17 June 1992.

b. On 17 June 1992, 26 quarts of lubricating oil spilled onto the ground when a seal on a Government-owned tractor ruptured. Corrective action was taken according to the emergency spill notification procedures effective at that time. Cleanup was completed by Inland Waters Pollution Control Co (this incident is addressed in the Barre Falls Dam SPCCP).

c. On 28 October 1993, a fire occurred in the Environmental Laboratory which destroyed a large portion of the lab. Fire officials did not have a current inventory of materials at the lab. The laboratory was rebuilt in 1994. Fire and police officials were provided a current chemical inventory and laboratory layout in late January 1997.

Space is provided in Appendix M for copies of Massachusetts Department of Environmental Protection Oil and Hazardous Material Incident Reports, pertaining to the Environmental Laboratory.

11. SPILL PREVENTION AND CONTROL PROCEDURES

Hazardous chemical spills may occur during container handling, as a result of leakage or damage to storage containers, or as a result of thermal cycling, which may compromise the structural integrity of some glassware or equipment which may then fail. The primary concerns in spill situations are to protect personnel and the environment, and notify appropriate authorities. In most cases, the initial observer should know the type of material spilled, and safety precautions required. The initial observer is any individual who discovers a spill. If there is any doubt about the material spilled, the initial observer should remove himself from danger, collect as much information about the spill as possible, and report the problem to appropriate authorities, using the Chain of Responsibility in Appendix F. Information an initial observer should try to obtain is listed in Appendix G, Spill Discovery Checklist. This information should be obtained as quickly as possible, but only when the observer is safe from danger.

a. Response to Spills at the Environmental Laboratory

(1) Any individual who discovers a spill, referred to hereafter as the initial observer, should protect himself

from harm by keeping away from the incident scene, and avoiding contact with the spilled material. A spill should be approached from upwind, if possible. Inhalation of fumes, smoke, or vapors from any spill should be avoided even if the gases or vapors are odorless and appear harmless. All equipment or materials that could cause the spill to ignite should be deactivated (e.g., cigarettes, matches, engines, etc.).

(2) After all persons are protected from harm, an attempt should be made, by the initial observer, to gather as much information about the spill as possible (see Appendix G for the Spill Discovery Checklist).

(3) Once the spilled material has been identified, the initial observer should use professional judgement in attempting to contain its flow. In a very small spill situation, this can be accomplished by turning ruptured containers, temporarily plugging leaks, repacking leaking containers or transferring material to plastic jugs, or by using emergency spill response equipment and materials. A list of such equipment and materials is shown in Appendix E1.

(4) If flow of the spilled material has stopped, an attempt should be made to contain the material by individuals who have been properly trained in handling spilled materials, to prevent further contamination of the environment. Spill containment can be accomplished by covering nearby drains with absorbent mats, and placing absorbent materials in and around the spill.

(5) NED Environmental Laboratory personnel will clean up minor spills on site only if conditions of the spill (i.e., substance, quantity, location, and timing) are within the project's capability to respond (e.g., proper equipment, materials, qualified personnel, and waste storage/disposal). The Laboratory Director shall use professional judgement in making the determination on whether his personnel have the capability of responding to a spill. This should include regular safety meetings to discuss policy on spills, which are routine in a laboratory.

(6) If a spill is beyond the laboratory personnel's capability to control, an emergency spill contractor will be contacted by the Laboratory Director or, in his absence, the Chemical Hygiene Officer (see Appendix H for a partial list of emergency spill contractors approved by the Massachusetts DEP).

b. Spill Response Level for Environmental Laboratory Personnel. Environmental Laboratory personnel are to be

trained and equipped at the "First Responder, Operations Level" designated in 29 CFR Part 1910.120(q)(6)(ii) (Appendix I). First responders at the operations level are trained to respond in a defensive fashion to contain the release from a safe distance, keep it from spreading, and prevent exposures. EEHB can conduct this training for the laboratory.

c. Notification of Spill. When notifying appropriate personnel or agencies of a spill, certain information must be determined to the greatest extent practicable (see Appendix G, Spill Discovery Checklist). The Chain of Responsibility, listed in Appendix F, must be followed when notifying personnel or agencies of a spill. There are certain time requirements to meet when reporting spills to the MA DEP. These requirements are listed in Appendix J. A facsimile of the Spill Discovery Checklist should be forwarded to the personnel or agencies that have been notified. When the next person or agency in line on the Chain of Responsibility is unavailable, contact the next in sequence.

(1) All spills within secondary containment of any volume must be reported to the Laboratory Director by the initial observer.

(2) All spills beyond secondary containment of any volume must be reported by the initial observer to the Laboratory Director, who then will determine procedure for cleanup.

(3) All spills, leaks, or releases which enter, or have the potential of entering, any water or soil on or adjacent to Environmental Laboratory property, must be reported to the Laboratory Director, who will then immediately contact the National Response Center. Appropriate personnel and agencies to be contacted are listed below:

Laboratory Director.....	(Lab.) 508-928-4238
	(NED) 617-647-8392
Chemical Hygiene Officer	508-928-4238
National Response Center.....	800-424-8802
U.S. EPA Region I Hotline.....	617-223-7265
Massachusetts Department of Environmental Protection (DEP) Spill Response.....	508-792-7653
Director of Engineering, NED.....	617-647-8500

Environmental Compliance Coordinator, NED.....617-647-8168
Metropolitan District Commission (MDC).....508-882-3789
Massachusetts Water Resources Authority.....508-355-4456

For most incidents, the National Response Center will refer the caller to the U.S. EPA Region I Hotline. EPA in turn will likely refer the caller to the responsible State agency (Massachusetts DEP). Regardless of what agency ultimately reviews the spill, it is critical that the National Response Center be the first contacted, regardless of the size of the incident.

If a spill threatens public health or safety, the local authorities (e.g., Police and Fire Departments) must be notified. For minor spills that have no impact on public health or safety, the Laboratory Director shall use his professional judgement to decide if local authorities should be contacted. Also, they may be contacted as a courtesy, even when the spill does not directly concern them.

Appendix H is a list of Federal and State agencies to contact in the event of a spill. A partial list of emergency spill contractors, approved by the Massachusetts Department of Environmental Protection, is also provided.

(4) The following steps provide a guide for spill notification procedures.

(a) The initial observer informs the Laboratory Director and/or the Chemical Hygiene Officer immediately upon discovery. Information on the Spill Discovery Checklist in Appendix G is gathered to the greatest extent possible. There shall be no delay in reporting a spill by gathering noncritical information. If the Laboratory Director and Chemical Hygiene Officer are not available, then the initial observer shall contact the next person or agency in sequence on the Chain of Responsibility shown in Appendix F.

(b) The Laboratory Director and/or Chemical Hygiene Officer shall determine the nature and severity of the spill and, from that determination, select other persons and agencies for notification.

(c) For spills that enter or have the potential to enter any water or soil, on or adjacent to Environmental Laboratory property, including spills beyond secondary containment, the Laboratory Director or Chemical Hygiene Officer contacts the National Response Center.

d. Rapid Communication

(1) The telephone system is the primary means for exchange of spill information.

(2) The Corps radio network, operated by NED and available at the Barre Falls Dam project office, is the secondary means for communicating spill information.

e. Request for Assistance. If project personnel have implemented a cleanup response, and anticipate lacking some or all the needed support, the Laboratory Director will estimate the resources necessary to respond to the spill. He will then call an approved emergency spill contractor to assist in the response to the spill. A call should then be placed by the Laboratory Director to the Director of Engineering at NED to inform him of the situation (see Appendix H for a partial list of emergency spill contractors approved by the MA DEP).

f. Release of Information. Officials assigned to release information about a spill should ensure public safety, prevent or reduce widespread alarm, and ensure public understanding of the extent and nature of the hazard resulting from the spill. The public is entitled to all unclassified information concerning a spill. The information should be furnished in a manner that assures accuracy, and reflects consideration of public welfare, national interest, and function of Command.

The Division Commander has the authority to approve the release of information in the event a spill poses an imminent threat to public health and welfare, or the environment. Information proposed for release will be coordinated with the Chief, Public Affairs Office before release. For spills that are contained within the project boundaries and pose no threat to the public health, release of information will be made at the discretion of the Division Commander. However, prompt release of factual information is encouraged.

12. **SECURITY**

The following describes the present security measures at the lab which has joint security issues with Barre Falls Dam:

a. Vehicle access to the project site is provided through the main entrance on Coldbrook Road. The paved road off U.S. Route 62 extends about 1,000 feet beyond the dam where it becomes gravel. Access to the lab site is uncontrolled; however, there is a sign along Coldbrook Road reading: "open daylight hours."

b. Lights are installed on all buildings. All lights are activated manually by switch.

c. The laboratory is the only building with a working alarm system; the garage and hazardous waste storage shed do not have any. The former operator's quarters alarm system is not functioning.

d. Duty hours from May to September at Barre Falls Dam duty hours are normally 0700 to 1530 during the week and weekends. From October to April, normal duty hours are 0700 to 1530 during the week. Personnel at the laboratory are available during regular Corps hours, 0700 to 1730, weekends excluded.

e. Contractual agreements with the Hubbardston and Barre Falls Police Departments provide for random patrolling for the site from May through September. Since 1978 vandalism at or near the site has decreased 95 percent.

13. TRAINING

The Laboratory Director is responsible for ensuring that the following training and information are provided to laboratory personnel.

a. A briefing will be conducted for all project personnel on the SPCCP/SCP once a year, or when implementing changes to the plan. The briefing will include spill response and control procedures, spill history, malfunctioning components, and recently developed precautionary measures. The information, discussed in the briefing, should enable all laboratory personnel to have a thorough understanding of the SPCCP/SCP.

b. Training drills on spill prevention, containment, retrieval methods, and inspection procedures will be conducted periodically.

c. Proper instruction in the operation and maintenance of equipment, to prevent the discharge of hazardous substances, will be given.

d. Personnel will be informed of the following policies:

(1) Containment, seams, rivets, nozzle connections, valves, pumps, and piping directly connected to above ground oil storage tanks must be visually examined and recorded at least quarterly for any leakage. All leaks should be promptly corrected. A log sheet shall be maintained to

indicate that the inspection has been carried out (see Appendix K for a sample of above ground oil storage tank inspection log sheet). The records should be maintained at the project for five years.

(2) Secondary containment of hazardous materials storage containers/buildings must be visually inspected at least quarterly for leakage.

e. Proper instructions in all applicable Federal, State, and local pollution control laws, rules, and regulations. Appropriate regulations are found in Appendix Q.

Training records will be kept for all personnel, documenting that the required training has been completed. Records for all former employees should be maintained at least three years. A sample training log sheet is listed in Appendix L. Implementation of a formal training program is discussed in Appendix O.

14. PROJECT INSPECTION

An inspection was carried out by the Environmental Engineering and Hydraulics Branch on 29 January 1997. The inspection determined existing spill response and control measures at the laboratory, and served as the basis of the Spill Contingency Plan.

Findings of the inspection have been recorded in paragraphs 8c and 8d. Recommendations based on these findings are presented in Appendix O.

15. SPCCP/SCP REVIEW AND UPDATES

a. The SPCCP/SCP shall be reviewed by Environmental Engineering and Hydraulics Branch at least every three years for possible changes in the facility, availability of more effective and commercial prevention and control technologies, and changes in regulations and policies.

b. The SPCCP/SCP will be updated whenever there is a change in facility design, construction, operation, or maintenance, affecting the facility's potential for discharge of oil or hazardous substances into waters of the United States, or adjoining shorelines. Changes shall be documented in the SPCCP/SCP as soon as possible, but no later than three months after occurrence. Any changes or amendments to this SPCCP/SCP should be attached in Appendix R. Amendments must be reviewed by a registered professional engineer.

c. One complete, current SPCCP/SCP copy, the record copy, will be maintained in custody of the Laboratory Director. Copies will also be kept by NED's Operations Technical Support and Water Control Divisions.

d. A copy of the Chain of Responsibility and Emergency Spill Response Agency and Organization List will be kept current. It is the Laboratory Director's responsibility to keep these up-to-date. Copies of each and the Spill Discovery Checklist will be displayed in the administrative offices and in the chemical storage garage. Current copies shall be included in this document.

Appendix A

Figures

- | | |
|---|--|
| 1 | Barre Falls Dam/Environmental
Laboratory Location Map |
| 2 | Barre Falls Dam Reservoir Map |
| 3 | Locations of Oil Storage Tanks |
| 4 | Laboratory Layout |

Barre Falls Dam/Environmental Laboratory Location Map

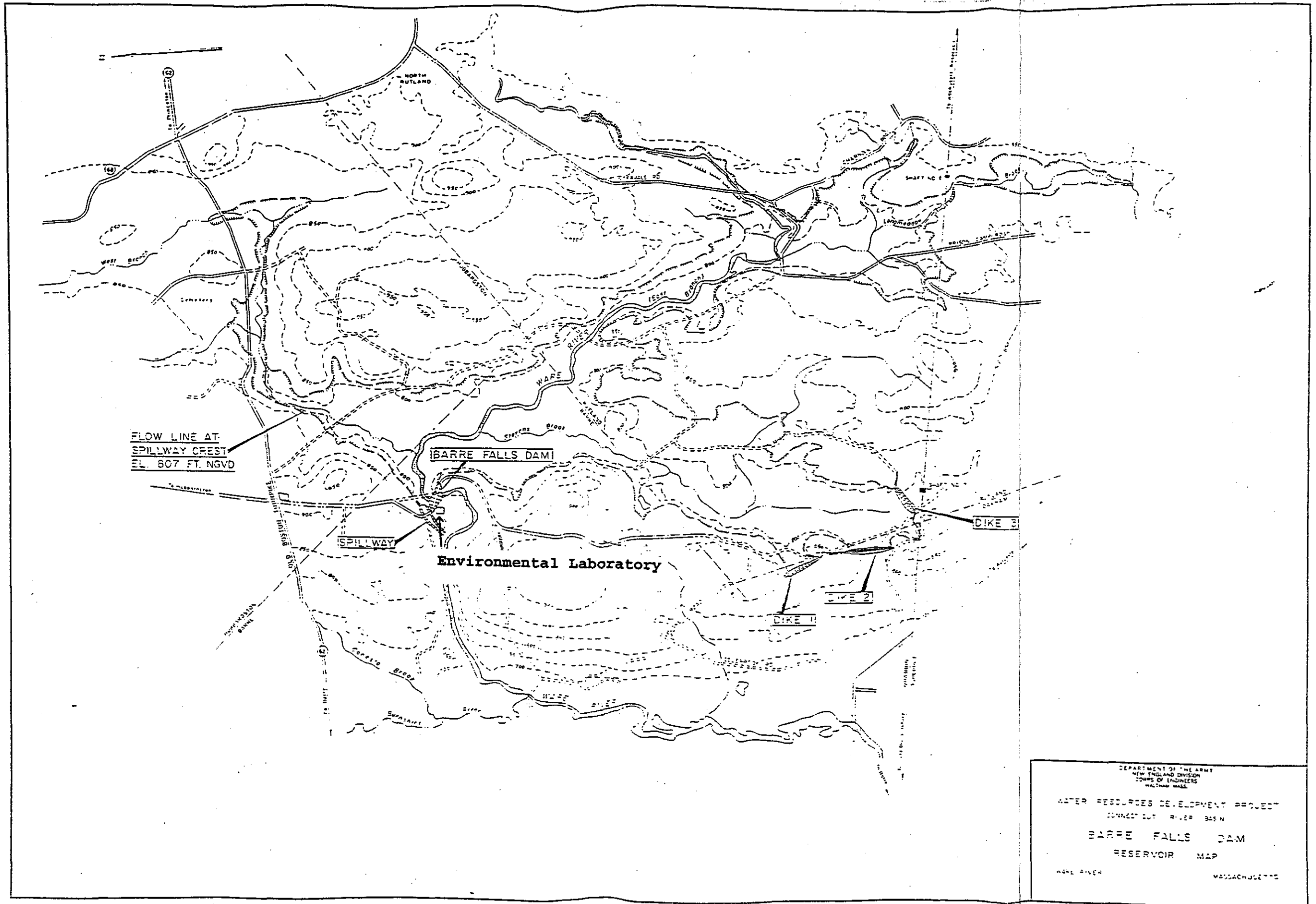


Figure 1

Barre Falls Dam Reservoir Map

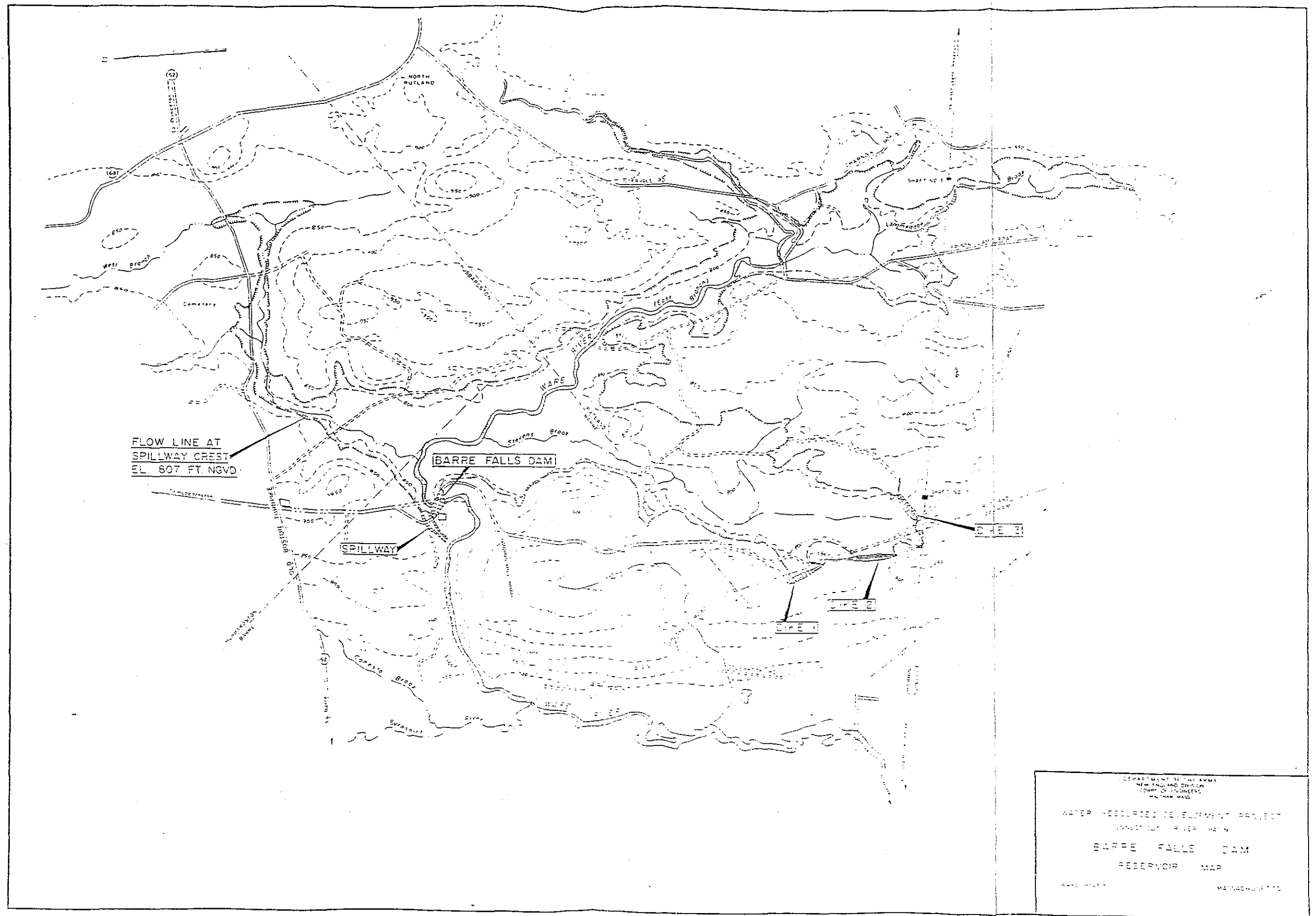


Figure 2

Locations of Oil Storage Tanks

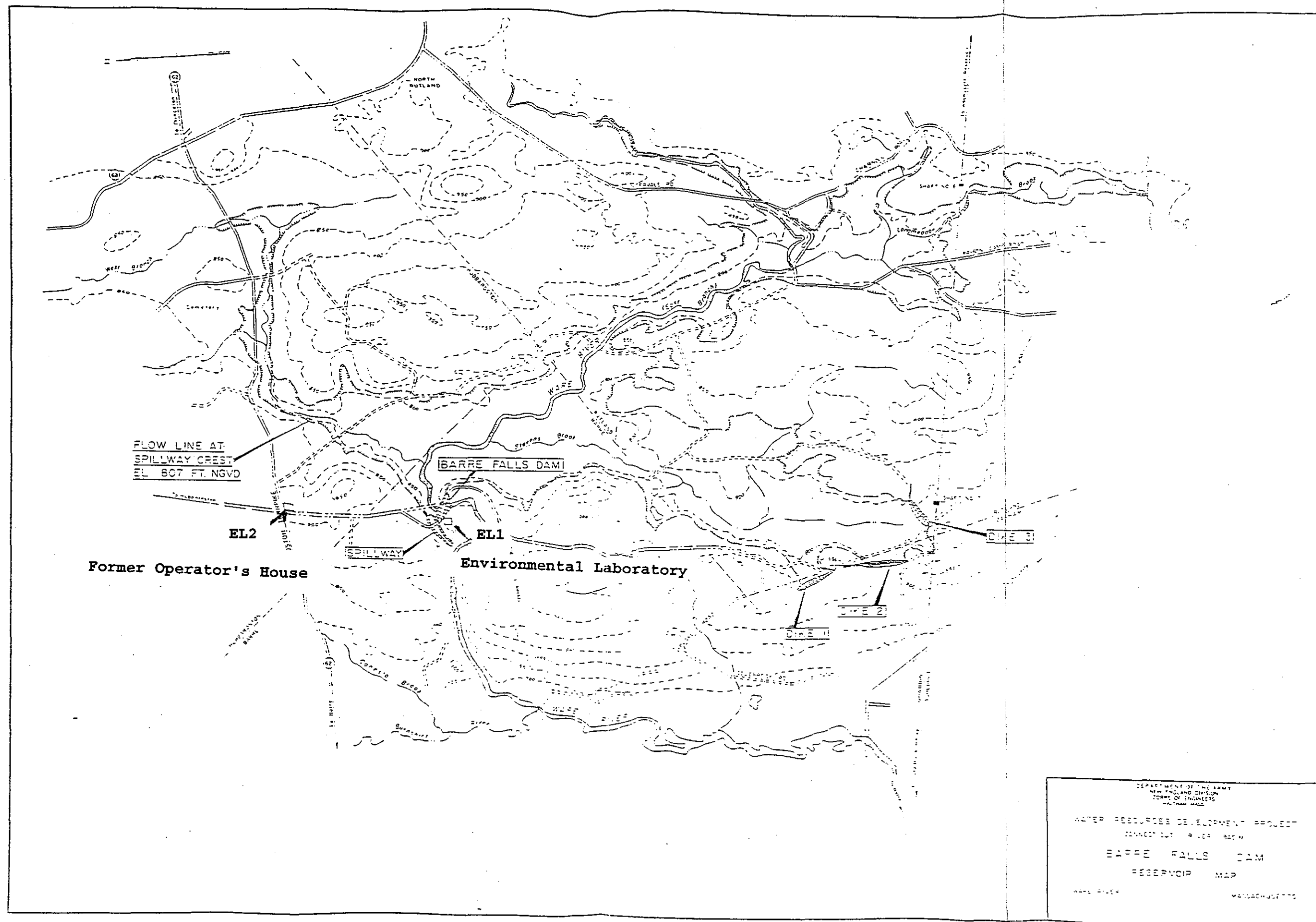


Figure 3

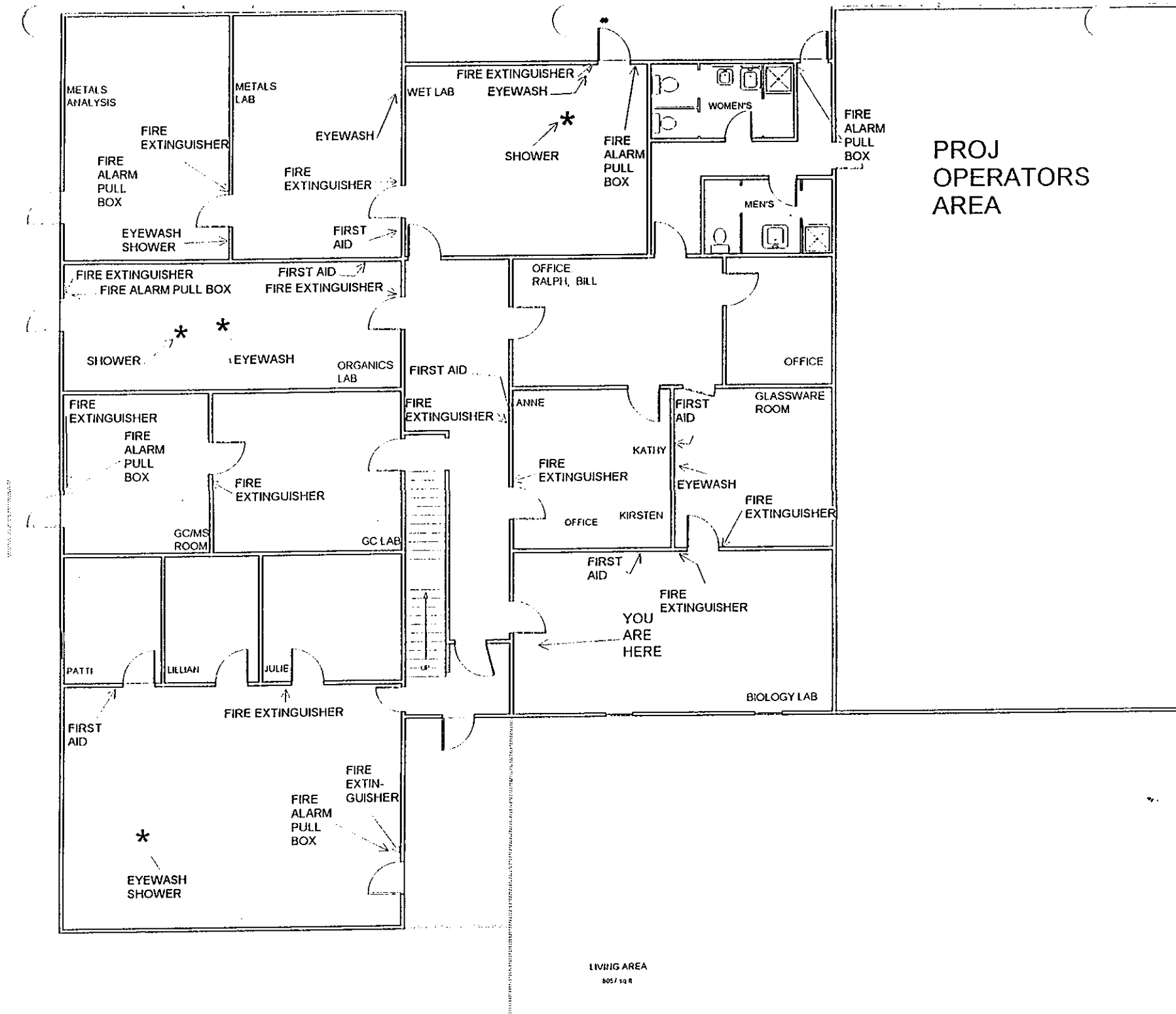


Figure 4

Appendix B

Oil Storage Tank Inventory

OIL STORAGE TANK INVENTORY

<u>Tank</u>	<u>Location</u>	<u>Capacity</u> <u>(gal)</u>	<u>Date</u> <u>Installed</u>	<u>Tank</u> <u>Type</u>	<u>Material</u> <u>of</u> <u>Construction</u>	<u>Fuel</u> <u>Type</u>	<u>Purpose</u>	<u>Secondary</u> <u>Contain-</u> <u>ment</u>	<u>Leak</u> <u>Detection</u>	<u>Cathodic</u> <u>Protection</u>
EL1	Barre Falls Office/Lab	330	1989	SW	Steel	Fuel Oil	Heat	Yes	No	N/A
EL2	Former Operator's Quarters	275		SW	Steel	Fuel Oil	Heat	Yes	No	N/A

Note: All tanks are above ground.

* - EL1 is maintained by Barre Falls and is addressed in their SPCCP/SCP

Appendix C

Chemical Product Inventory

CHEMICAL INVENTORY JAN 1997

CHEMICAL	LAB AREA	QUANTITY	STORED + QTY =	TOTAL QTY
1,1,2-Trichlorotrifluoroethane	ORG PREP	12L		12L
Acetic Acid	BIO/WET CHEM	2.5+7L		9.5 L
Acetone	ORG PRP	1L	60L	61L
Acetonitrile			16L	16L
Alcohol, USP {Ethanol}	BIO	100mL	12L	12.1L
Alkaline-Iodine Sodium Azide				
Alkylaryl Polyether Alcohol {Triton X-100}	MTL ANL.	200mL		200mL
Ammonium Molybdate	WET CHEM	11OZ		11OZ
Ammonium Persulfate	WET CHEM	300G		300G
Ammonium Phosphate	MTL ANL	400G		400G
Anhydron	WET CHEM	2.5KG		2.5KG
Antimony Potassium Tartrate	WET CHEM	450G		450G
Ascorbic Acid	WET CHEM	200G		200G
Bacto Agar	BIO	8oz		227G
Bile Esculin Agar	BIO	114G		114G
Bile Esculin Azide Agar	BIO	175g		175G
Brain Heart Infusion	BIO	16OZ		454G
Brain Heart Infusion Agar	BIO	4oz		113G
Bromocresol Green	WET CHEM	5G		5G
Bromophenol Blue	WET CHEM	3G		3G
Calcium Nitrate	WET CHEM	400G		400G
Calcium Sulfate (Drierite)	WET CHEM/BIO	8LB+5LB		13LB
Calibration Buffer - pH4	BIO	2L		2L
Calibration Buffer - pH7	BIO	14L		14L
Calibration Buffer - pH10	BIO	2L		2L
Casitone	BIO	400G		400G
Chelex 100 Chelating Resin	MTL ANL	100g		100g
Colilert	BIO	400mL		400mL
Colilert Comparator	BIO	200mL		200mL
Copper, granuals 20-30mesh	WET CHEM	12.5KG		12.5KG
mE Agar	BIO	220G		220G
m Endo Agar Les	BIO	1.67LBS		756G

CHEMICAL	LAB AREA	QUANTITY	STORED	TOTAL
EC Medium with MUG Soln	BIO	210OZ		210OZ
m FC Agar	BIO	2.5LB		1.13KG
EDTA Disodium Salt, Dihydrate	WET CHEM	4OZ		113G
Esculin Iron Agar	BIO	200G		200G
Ferrous Ammonium Sulfate	WET CHEM	250G		250G
mug Fluorescent Crystals	BIO	1G		1G
Formaldehyde Soln	BIO	8L	8L	16L
Formalin 2-7%	BIO	3.5L		3.5L
Formalin, Buffered w/ Rose Bengal	BIO	8L		8L
Gasoline			60L	60L
Glycerine	BIO	20OZ		20OZ
Grams Stain Kit: Crystal Violet	BIO	100mL		100mL
Decolorizer	BIO	100mL		100mL
Iodine	BIO	100mL		100mL
Safranin O	BIO	100mL		100mL
Hexane	ORG PREP	2L	68L	70L
Hydrochloric Acid 36%	MTLS/BIO/ORG	17+2+1L	4L	24L
Hydrogen peroxide	MTL PREP	4.5L		4.5L
Hydroxylamine Hydrochloride	WET CHEM	3KG		3KG
Iodine	WET CHEM	200G		200G
Isooctane	ORG PREP	1.5L		1.5L
Isopropyl 2 - propanol	ORG PREP	1L		1L
Lauryl Tryptose broth	BIO	4OZ		4OZ
Lithium Flouride	MTL ANL	50g		50g
Magnesium Carbonate	WET CHEM	5G		5G
Magnesium Chloride 6 - Hydrate	WET CHEM	300G		300G
Magnesium Nitrate	WET CHEM	150G		150G
Magnesium Perchlorate	WET CHEM	500G		500G
Mercury 1000pm	MTL ANL	500mL		500mL
Methyl Alcohol	ORG PREP	2.5L	24L	26.5L
Methylene Blue	WET CHEM	2OZ		2OZ
Methylene Chloride	ORG PREP	1L	48L	49L
Nalidixic Acid	BIO	30g		30g
Nickel Nitrate	WET CHEM	500G		500G
Nitric Acid	MTL/BIO/WET	24+1+2.5L	2.5L	30L
Nutrient Agar	BIO	.75LB		.75LB

CHEMICAL	LAB AREA	QUANTITY	STORED	TOTAL
Oil, 2 cycle motor			21L	21L
Ottawa Sand Standard	WET CHEM	1.5KG		1.5KG
Palladium Modifier	MTL ANL	20mL		20mL
PCB Oils				
Phenol Red	BIO	5G		5G
Phosphorus Pentoxide	MTL/WET CHEM	400+500g		900G
Phosphoric Acid			4L	4L
Plate count Agar	BIO	725g		725g
Platinum wire	WET CHEM	3G		3G
Potassium Chloride	WET CHEM	450G		450G
Potassium Ferricyanide	WET CHEM	11OZ		11OZ
Potassium Iodide	WET CHEM	500G		500G
Potassium Nitrate	WET CHEM	200G		200G
Potassium Permanganate	WET CHEM	2.5KG		2.5KG
Potassium Permanganate in water 5%	WET CHEM	.5L		.5L
Potassium Persulfate	MTL PREP	2.25L		2.25L
Potassium Persulfate in water 5%	WET CHEM	2L		2L
Potassium Phosphate Dibasic	WET CHEM	450G		450G
Potassium Phosphate Monobasic	WET CHEM	200G		200G
Potassium Sulfate	WET CHEM	100G		100G
Rosalic Acid	BIO	18g		18g
Silica Gel			2000G	2KG
Silicone Anti-foaming Agent	MTL ANL	500mL		500mL
Sodium Bicarbonate	WET CHEM	200G		200G
Sodium Biphosphate	WET CHEM	4 OZ		4 OZ
Sodium Carbonate	WET CHEM	250G		250G
Sodium Chloride	WET CHEM	1KG		1KG
Sodium Hydroxide (50%)	WET CHEM	4L		4L
Sodium Hydroxide (10 N)	ORG PREP	100mL		100mL
Sodium Hydroxide (0.02N)	WET CHEM	1L		1L
Sodium hydroxide pellets	WET CHEM/ORG	2.8+.5KG		3.3KG
Sodium Phosphate Dibasic	WET CHEM	300G		300G
Sodium Sulfate	WETCHEM/ORG	1+6KG		7KG
Sodium Sulfite	ORG. PREP	200G		200G
Stannous Chloride	WET CHEM	1.7KG		1.7KG
Sulfuric Acid	MTL/BIO/ORG	2+12.5+4.5L	10L	29L

CHEMICAL	LAB AREA	QUANTITY	STORED	TOTAL
m TEC Agar	BIO	425G		425G
Tetrabutylammonium Hydrogen Sulfate	ORG PREP	850G		850G
Thiamine	BIO	10G		10G
Triphenyl Tetrazoleum Chloride {TTC}	BIO	100G		100G
Toluene	ORG PREP	2.5L		2.5L
Triton	MTL ANL	500mL		500mL
Tryptic Soy Broth	BIO	450G		450G
Uranine	BIO	450G		450G
Urea			3G	3G
Yeast Extract	BIO	100G		100G

OTHER HAZARDOUS MATERIALS
JAN 1997

MATERIAL:	QUANTITY	LAB AREA
ASBESTOS FLOOR TILES	10 X 14'	GC ROOM
PROPANE	2 1000GAL TANKS	SW OF LAB
COMPRESSED GAS:		
LIQUID ARGON	2 230L	TRACE METALS
ARGON GAS	2 TANKS	1@TRACE METALS,1 STORED
ARGON 95%/HYDROGEN 5%	1 TANK	TRACE METALS
ARGON 95%/ METHANE 5%	2 TANKS	GC ROOM
CARBON DIOXIDE	4 TANKS	2@WET CHEM,2 STORED
HELIUM	8 TANKS	3@GC, 1@GC/MS, 4 STORED
NITROGEN, LIQUID	2 230L	OUTSIDE- REAR OF BUILDING
NITROGEN GAS	3 TANKS	STORED
RADIOACTIVE SOURCES:	3 NICKEL 63 (BETA)	GC ROOM INSTRUMENTS

Appendix D

Listing of Oil and Hazardous Substances
and Reportable Quantities

CHEMICAL INVENTORY JAN 1997

REPORTABLE QUANTITY (KG)

<u>CHEMICAL</u>	<u>LAB AREA</u>	<u>QUANTITY</u> + <u>STORED QTY</u> = <u>TOTAL QTY</u>	= <u>KG'S</u>	<u>STATE</u>	<u>FEDERAL</u>
1,1,2-Trichlorotrifluoroethane	ORG PREP	12L			
Acetic Acid	BIO/WET CHEM	2.5+7L	8	45.5	2270
Acetone	ORG PRP	1L	40	45.5	2270
Acetonitrile			10.5	45.5	2270
Alcohol, USP {Ethanol}	BIO	100mL			
Alkaline-Iodine Sodium Azide					
Alkylaryl Polyether Alcohol {Triton X-100}	MTL ANL.	200mL			
Ammonium Molybdate	WET CHEM	11OZ			
Ammonium Persulfate	WET CHEM	300G			
Ammonium Phosphate	MTL ANL	400G			
Anhydron	WET CHEM	2.5KG			
Antimony Potassium Tartrate	WET CHEM	450G	0.45	4.54	45.4
Ascorbic Acid	WET CHEM	200G			
Bacto Agar	BIO	8oz			
Bile Esculin Agar	BIO	114G			
Bile Esculin Azide Agar	BIO	175g			
Brain Heart Infusion	BIO	16OZ			
Brain Heart Infusion Agar	BIO	4oz			
Bromocresol Green	WET CHEM	5G			
Bromophenol Blue	WET CHEM	3G	0.003		45.4
Calcium Nitrate	WET CHEM	400G			
Calcium Sulfate (Drierite)	WET CHEM/BIO	8LB+5LB			
Calibration Buffer - pH4	BIO	2L			
Calibration Buffer - pH7	BIO	14L			
Calibration Buffer - pH10	BIO	2L			
Casitone	BIO	400G			
Chelex 100 Chelating Resin	MTL ANL	100g			
Colilert	BIO	400mL			
Colilert Comparator	BIO	200mL			
Copper, granuals 20-30mesh	WET CHEM	12.5KG	12.5	45.4	2270
mE Agar	BIO	220G			
m Endo Agar Les	BIO	1.67LBS			

CHEMICAL	LAB AREA	QUANTITY	STORED	TOTAL			
EC Medium with MUG Soln	BIO	210OZ		210OZ			
m FC Agar	BIO	2.5LB		1.13KG			
EDTA Disodium Salt, Dihydrate	WET CHEM	4OZ		113G	0.113		2270
Esculin Iron Agar	BIO	200G		200G			
Ferrous Ammonium Sulfate	WET CHEM	250G		250G	0.25	22.7	454
mug Fluorescent Crystals	BIO	1G		1G			
Formaldehyde Soln	BIO	8L	8L	16L	14.4	4.54	45.4
Formalin 2-7%	BIO	3.5L		3.5L			
Formalin, Buffered w/ Rose Bengal	BIO	8L		8L			
Gasoline			60L	60L			
Glycerine	BIO	20OZ		20OZ			
Grams Stain Kit: Crystal Violet	BIO	100mL		100mL			
Decolorizer	BIO	100mL		100mL			
Iodine	BIO	100mL		100mL			
Safranin O	BIO	100mL		100mL			
Hexane	ORG PREP	2L	68L	70L	46	4.54	2270
Hydrochloric Acid 36%	MTLS/BIO/ORG	17+2+1L	4L	24L	43	45.4	2270
Hydrogen peroxide	MTL PREP	4.5L		4.5L			
Hydroxylamine Hydrochloride	WET CHEM	3KG		3KG	3	4.54	
Iodine	WET CHEM	200G		200G	0.2	4.54	
Isooctane	ORG PREP	1.5L		1.5L		4.54	
Isopropyl 2 - propanol	ORG PREP	1L		1L			
Lauryl Tryptose broth	BIO	4OZ		4OZ			
Lithium Flouride	MTL ANL	50g		50g			
Magnesium Carbonate	WET CHEM	5G		5G			
Magnesium Chloride 6 - Hydrate	WET CHEM	300G		300G			
Magnesium Nitrate	WET CHEM	150G		150G			
Magnesium Perchlorate	WET CHEM	500G		500G			
Mercury 1000pm	MTL ANL	500mL		500mL	0.47	0.454	
Methyl Alcohol	ORG PREP	2.5L	24L	26.5L	17.3	45.4	2270
Methylene Blue	WET CHEM	2OZ		2OZ			
Methylene Chloride	ORG PREP	1L	48L	49L	53.4	22.7	454
Nalidixic Acid	BIO	30g		30g			
Nickel Nitrate	WET CHEM	500G		500G	0.5	4.54	45.4
Nitric Acid	MTL/BIO/WET	24+1+2.5L	2.5L	30L	34.9	22.7	45.4
Nutrient Agar	BIO	.75LB		.75LB			

CHEMICAL	LAB AREA	QUANTITY	STORED	TOTAL			
Oil, 2 cycle motor			21L	21L			
Ottawa Sand Standard	WET CHEM	1.5KG		1.5KG			
Palladium Modifier	MTL ANL	20mL		20mL			
PCB Oils							
Phenol Red	BIO	5G		5G			
Phosphorus Pentoxide	MTL/WET CHEM	400+500g		900G	0.9	0.454	45.4
Phosphoric Acid			4L	4L	5.7	45.4	2270
Plate count Agar	BIO	725g		725g			
Platinum wire	WET CHEM	3G		3G			
Potassium Chloride	WET CHEM	450G		450G			
Potassium Ferricyanide	WET CHEM	11OZ		11OZ			
Potassium Iodide	WET CHEM	500G		500G			
Potassium Nitrate	WET CHEM	200G		200G			
Potassium Permanganate	WET CHEM	2.5KG		2.5KG	2.5	4.54	45.4
Potassium Permanganate in water 5%	WET CHEM	.5L		.5L			
Potassium Persulfate	MTL PREP	2.25L		2.25L			
Potassium Persulfate in water 5%	WET CHEM	2L		2L			
Potassium Phosphate Dibasic	WET CHEM	450G		450G			
Potassium Phosphate Monobasic	WET CHEM	200G		200G			
Potassium Sulfate	WET CHEM	100G		100G			
Rosalic Acid	BIO	18g		18g			
Silica Gel			2000G	2KG			
Silicone Anti-foaming Agent	MTL ANL	500mL		500mL			
Sodium Bicarbonate	WET CHEM	200G		200G			
Sodium Biphosphate	WET CHEM	4 OZ		4 OZ			
Sodium Carbonate	WET CHEM	250G		250G			
Sodium Chloride	WET CHEM	1KG		1KG			
Sodium Hydroxide (50%)	WET CHEM	4L		4L			
Sodium Hydroxide (10 N)	ORG PREP	100mL		100mL			
Sodium Hydroxide (0.02N)	WET CHEM	1L		1L			
Sodium hydroxide pellets	WET CHEM/ORG	2.8+.5KG		3.3KG	3.3		454
Sodium Phosphate Dibasic	WET CHEM	300G		300G	0.3	45.4	2270
Sodium Sulfate	WETCHEM/ORG	1+6KG		7KG			
Sodium Sulfite	ORG. PREP	200G		200G			
Stannous Chloride	WET CHEM	1.7KG		1.7KG			
Sulfuric Acid	MTL/BIO/ORG	2+12.5+4.5L	10L	29L	44.4	22.7	454

CHEMICAL	LAB AREA	QUANTITY	STORED	TOTAL			
m TEC Agar	BIO	425G		425G			
Tetrabutylammonium Hydrogen Sulfate	ORG PREP	850G		850G			
Thiamine	BIO	10G		10G			
Triphenyl Tetrazoleum Chloride {TTC}	BIO	100G		100G			
Toluene	ORG PREP	2.5L		2.5L	1.8	22.7	454
Triton	MTL ANL	500mL		500mL			
Tryptic Soy Broth	BIO	450G		450G			
Uranine	BIO	450G		450G			
Urea			3G	3G	0.3	0.454	
Yeast Extract	BIO	100G		100G			

Appendix E

**Emergency Spill Response Equipment and Materials
and Checklist**

Appendix E1

Emergency Spill Response Equipment and Materials

Emergency Spill Response Equipment and Materials

The following emergency spill response equipment and materials are available at the Environmental Laboratory. They are stored in the laboratory rooms, chemical storage garage, and waste storage sheds.

<u>Item</u>	<u>Quantity</u>
Spill Kit including: absorbent pad absorbent pillow gloves goggles absorbent material	1 in each laboratory
Spill Kit including: absorbent pad absorbent pillow gloves goggles drip pans neutralizer absorbent material emergency phone numbers spill discovery checklist	1 in chemical storage area, 1 in old waste shed, and 1 in new waste storage building

Appendix E2

Emergency Spill Response Equipment and Materials Checklist

Emergency Spill Response Equipment and Materials Checklist

Date: _____				
<u>Item</u>	<u>Location</u>	<u>Dimensions</u>	<u>Quantity on hand</u>	<u>Condition (excellent, good, fair, poor, etc.)</u>
Spill Kit	Each lab			
Spill Kit	Old waste bldg			
Spill Kit	New waste bldg			
Comments: <div style="height: 60px; border: 1px solid black; margin-top: 5px;"></div>				

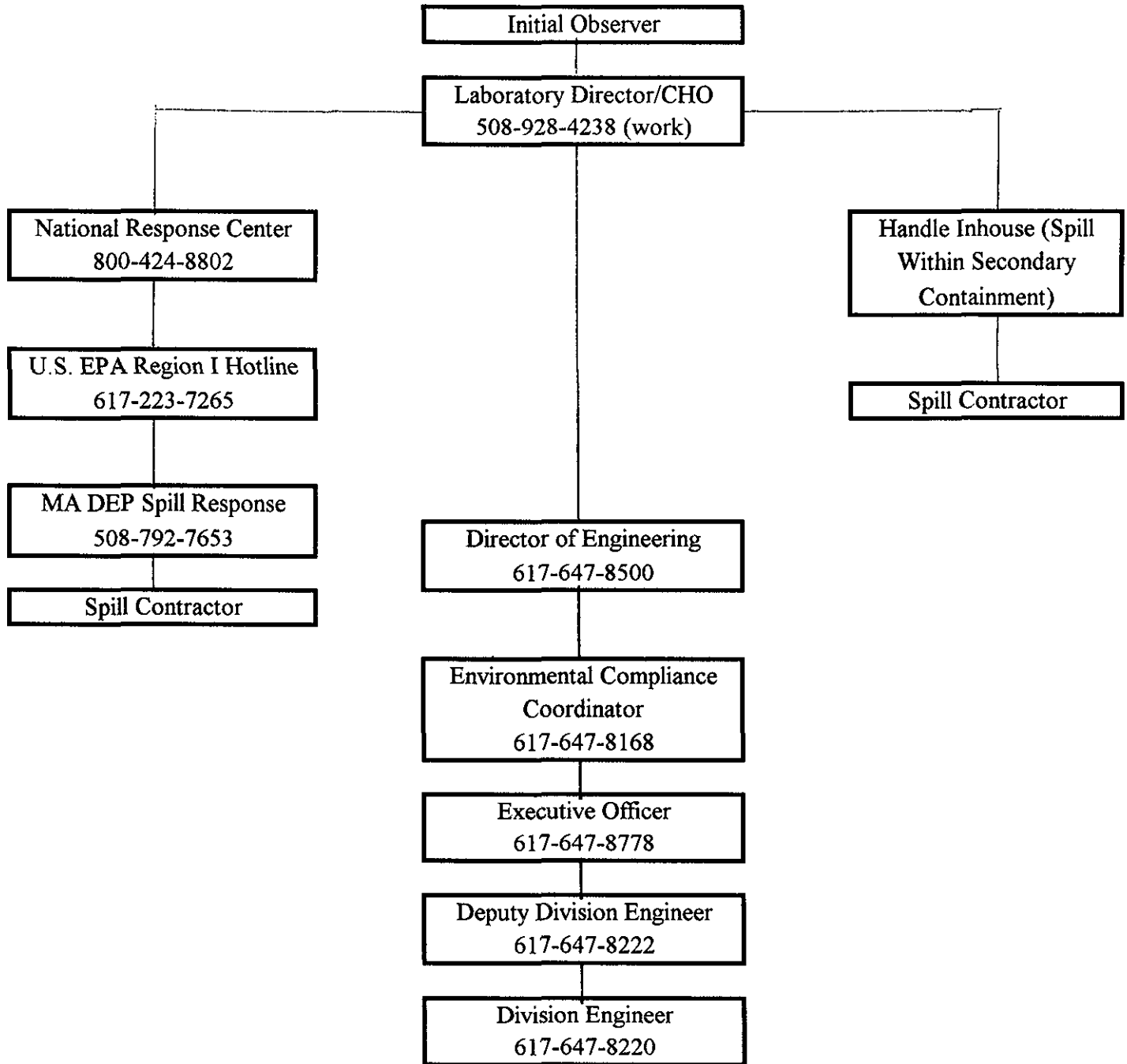
Inspected by: _____

Lab Director: _____

Appendix F

Chain of Responsibility

Chain of Responsibility



Appendix G

Spill Discovery Checklist

Spill Discovery Checklist

The following information must be determined to the greatest extent possible upon discovery or notification of a spill:

1. Name, location, and type or function of the facility
2. Name, address, and telephone number of the person completing report and the point of contact for further information
3. Time of the spill discovery
4. The specific location of the spill and body of water affected, if any
5. Type of substance spilled (e.g. fuel oil, acetone, etc.)
6. Estimated amount of material spilled
7. Source of spill
8. Cause of spill
9. Duration of discharge
10. Proximity of spill to areas where people are known to congregate or to vulnerable areas needing immediate protection
11. On-scene weather
12. Response action taken, if any

13. Agencies notified	Yes/No	By Who	When
a. National Response Center	_____	_____	_____
b. US EPA Region I Hotline	_____	_____	_____
c. Massachusetts D.E.P.	_____	_____	_____
d. Director of Operations, NED	_____	_____	_____
e. Environmental Compliance Coordinator, NED	_____	_____	_____
f. Federal Emergency Management Agency	_____	_____	_____
g. Barre Fire Department	_____	_____	_____
h. Massachusetts State Police	_____	_____	_____
i. Other _____	_____	_____	_____
j. Other _____	_____	_____	_____

Appendix H

Emergency Spill Response Agency
and Organization List

Emergency Spill Response Agency and Organization List

EMERGENCY SPILLS REQUIRE IMMEDIATE NOTIFICATION OF BOTH FEDERAL AND STATE AUTHORITIES. A CALL TO THE NATIONAL RESPONSE CENTER SHOULD BE FOLLOWED BY A CALL TO THE APPROPRIATE STATE AGENCY.

ENVIRONMENTAL LABORATORY DIRECTOR

508-928-4238 (WORK)

NATIONAL RESPONSE CENTER

800-424-8802

U.S. EPA REGION I HOTLINE

617-223-7265

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) SPILL RESPONSE

508-792-7653

FEDERAL EMERGENCY MANAGEMENT AGENCY

215-931-5500

CHEMTREK EMERGENCY SPILL INFORMATION

800-424-9300

BARRE FIRE DEPARTMENT

508-355-4574

MASSACHUSETTS STATE POLICE

508-248-5816

EMERGENCY SPILL CONTRACTORS

1. CLEAN HARBORS
SHREWSBURY 508-842-0100
BOSTON 617-269-5830
2. ZECCO
NORTHBORO 508-393-2537

Appendix I

Title 29, CFR 1994 rev, Part 1910.120(q);
Hazardous Waste Operations and Emergency Response

is made part of the emergency response plan. The emergency response plan shall be a written portion of the employers safety and health program required in paragraph (p)(1) of this section. Employers who will evacuate their employees from the worksite location when an emergency occurs and who do not permit any of their employees to assist in handling the emergency are exempt from the requirements of paragraph (p)(8) if they provide an emergency action plan complying with § 1910.38(a) of this part.

(ii) *Elements of an emergency response plan.* The employer shall develop an emergency response plan for emergencies which shall address, as a minimum, the following areas to the extent that they are not addressed in any specific program required in this paragraph:

(A) Pre-emergency planning and coordination with outside parties.

(B) Personnel roles, lines of authority, and communication.

(C) Emergency recognition and prevention.

(D) Safe distances and places of refuge.

(E) Site security and control.

(F) Evacuation routes and procedures.

(G) Decontamination procedures.

(H) Emergency medical treatment and first aid.

(I) Emergency alerting and response procedures.

(J) Critique of response and follow-up.

(K) PPE and emergency equipment.

(iii) *Training.* (A) Training for emergency response employees shall be completed before they are called upon to perform in real emergencies. Such training shall include the elements of the emergency response plan, standard operating procedures the employer has established for the job, the personal protective equipment to be worn and procedures for handling emergency incidents.

Exception #1: An employer need not train all employees to the degree specified if the employer divides the work force in a manner such that a sufficient number of employees who have responsibility to control emergencies have the training specified, and all other employees, who may first respond to an emergency incident, have sufficient

awareness training to recognize that an emergency response situation exists and that they are instructed in that case to summon the fully trained employees and not attempt control activities for which they are not trained.

Exception #2: An employer need not train all employees to the degree specified if arrangements have been made in advance for an outside fully-trained emergency response team to respond in a reasonable period and all employees, who may come to the incident first, have sufficient awareness training to recognize that an emergency response situation exists and they have been instructed to call the designated outside fully-trained emergency response team for assistance.

(B) Employee members of TSD facility emergency response organizations shall be trained to a level of competence in the recognition of health and safety hazards to protect themselves and other employees. This would include training in the methods used to minimize the risk from safety and health hazards; in the safe use of control equipment; in the selection and use of appropriate personal protective equipment; in the safe operating procedures to be used at the incident scene; in the techniques of coordination with other employees to minimize risks; in the appropriate response to over exposure from health hazards or injury to themselves and other employees; and in the recognition of subsequent symptoms which may result from over exposures.

(C) The employer shall certify that each covered employee has attended and successfully completed the training required in paragraph (p)(8)(iii) of this section, or shall certify the employee's competency at least yearly. The method used to demonstrate competency for certification of training shall be recorded and maintained by the employer.

(iv) *Procedures for handling emergency incidents.* (A) In addition to the elements for the emergency response plan required in paragraph (p)(8)(ii) of this section, the following elements shall be included for emergency response plans to the extent that they do not repeat any information already contained in the emergency response plan:

(i) Site topography, layout, and prevailing weather conditions.

(2) Procedures for reporting incidents to local, state, and federal governmental agencies.

(B) The emergency response plan shall be compatible and integrated with the disaster, fire and/or emergency response plans of local, state, and federal agencies.

(C) The emergency response plan shall be rehearsed regularly as part of the overall training program for site operations.

(D) The site emergency response plan shall be reviewed periodically and, as necessary, be amended to keep it current with new or changing site conditions or information.

(E) An employee alarm system shall be installed in accordance with 29 CFR 1910.165 to notify employees of an emergency situation; to stop work activities if necessary; to lower background noise in order to speed communication; and to begin emergency procedures.

(F) Based upon the information available at time of the emergency, the employer shall evaluate the incident and the site response capabilities and proceed with the appropriate steps to implement the site emergency response plan.

(q) *Emergency response to hazardous substance releases.* This paragraph covers employers whose employees are engaged in emergency response no matter where it occurs except that it does not cover employees engaged in operations specified in paragraphs (a)(1)(i) through (a)(1)(iv) of this section. Those emergency response organizations who have developed and implemented programs equivalent to this paragraph for handling releases of hazardous substances pursuant to section 303 of the Superfund Amendments and Reauthorization Act of 1986 (Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. 11003) shall be deemed to have met the requirements of this paragraph.

(i) *Emergency response plan.* An emergency response plan shall be developed and implemented to handle anticipated emergencies prior to the commencement of emergency response operations. The plan shall be in writing and available for inspection and copying by employees, their representatives and OSHA personnel. Employers who will

evacuate their employees from the danger area when an emergency occurs, and who do not permit any of their employees to assist in handling the emergency, are exempt from the requirements of this paragraph if they provide an emergency action plan in accordance with § 1910.38(a) of this part.

(2) *Elements of an emergency response plan.* The employer shall develop an emergency response plan for emergencies which shall address, as a minimum, the following to the extent that they are not addressed elsewhere:

(i) Pre-emergency planning and coordination with outside parties.

(ii) Personnel roles, lines of authority, training, and communication.

(iii) Emergency recognition and prevention.

(iv) Safe distances and places of refuge.

(v) Site security and control.

(vi) Evacuation routes and procedures.

(vii) Decontamination.

(viii) Emergency medical treatment and first aid.

(ix) Emergency alerting and response procedures.

(x) Critique of response and follow-up.

(xi) PPE and emergency equipment.

(xii) *Emergency response organizations* may use the local emergency response plan or the state emergency response plan or both, as part of their emergency response plan to avoid duplication. Those items of the emergency response plan that are being properly addressed by the SARA Title III plans may be substituted into their emergency plan or otherwise kept together for the employer and employee's use.

(3) *Procedures for handling emergency response.* (i) The senior emergency response official responding to an emergency shall become the individual in charge of a site-specific Incident Command System (ICS). All emergency responders and their communications shall be coordinated and controlled through the individual in charge of the ICS assisted by the senior official present for each employer.

NOTE TO (q)(3)(i).—The "senior official" at an emergency response is the most senior official on the site who has the responsibility

for controlling the operations at the site. Initially it is the senior officer on the first due piece of responding emergency apparatus to arrive on the incident scene. As more senior officers arrive (i.e., battalion chief, fire chief, state law enforcement official, site coordinator, etc.) the position is passed up the line of authority which has been previously established.

(II) The individual in charge of the ICS shall identify, to the extent possible, all hazardous substances or conditions present and shall address as appropriate site analysis, use of engineering controls, maximum exposure limits, hazardous substance handling procedures, and use of any new technologies.

(III) Based on the hazardous substances and/or conditions present, the individual in charge of the ICS shall implement appropriate emergency operations, and assure that the personal protective equipment worn is appropriate for the hazards to be encountered. However, personal protective equipment shall meet, at a minimum, the criteria contained in 29 CFR 1910.156(e) when worn while performing fire fighting operations beyond the incipient stage for any incident.

(iv) Employees engaged in emergency response and exposed to hazardous substances presenting an inhalation hazard or potential inhalation hazard shall wear positive pressure self-contained breathing apparatus while engaged in emergency response, until such time that the individual in charge of the ICS determines through the use of air monitoring that a decreased level of respiratory protection will not result in hazardous exposures to employees.

(v) The individual in charge of the ICS shall limit the number of emergency response personnel at the emergency site, in those areas of potential or actual exposure to incident or site hazards, to those who are actively performing emergency operations. However, operations in hazardous areas shall be performed using the buddy system in groups of two or more.

(vi) Back-up personnel shall stand by with equipment ready to provide assistance or rescue. Advance first aid support personnel, as a minimum, shall also stand by with medical equipment and transportation capability.

(vii) The individual in charge of the ICS shall designate a safety official, who is knowledgeable in the operations being implemented at the emergency response site, with specific responsibility to identify and evaluate hazards and to provide direction with respect to the safety of operations for the emergency at hand.

(viii) When activities are judged by the safety official to be an ID/IH condition and/or to involve an imminent danger condition, the safety official shall have the authority to alter, suspend, or terminate those activities. The safety official shall immediately inform the individual in charge of the ICS of any actions needed to be taken to correct these hazards at the emergency scene.

(ix) After emergency operations have terminated, the individual in charge of the ICS shall implement appropriate decontamination procedures.

(x) When deemed necessary for meeting the tasks at hand, approved self-contained compressed air breathing apparatus may be used with approved cylinders from other approved self-contained compressed air breathing apparatus provided that such cylinders are of the same capacity and pressure rating. All compressed air cylinders used with self-contained breathing apparatus shall meet U.S. Department of Transportation and National Institute for Occupational Safety and Health criteria.

(4) *Skilled support personnel.* Personnel, not necessarily an employer's own employees, who are skilled in the operation of certain equipment, such as mechanized earth moving or digging equipment or crane and hoisting equipment, and who are needed temporarily to perform immediate emergency support work that cannot reasonably be performed in a timely fashion by an employer's own employees, and who will be or may be exposed to the hazards at an emergency response scene, are not required to meet the training required in this paragraph for the employer's regular employees. However, these personnel shall be given an initial briefing at the site prior to their participation in any emergency response. The initial briefing shall include instruction in the wearing of ap-

propriate personal protective equipment, what chemical hazards are involved, and what duties are to be performed. All other appropriate safety and health precautions provided to the employer's own employees shall be used to assure the safety and health of these personnel.

(5) *Specialist employees.* Employees who, in the course of their regular job duties, work with and are trained in the hazards of specific hazardous substances, and who will be called upon to provide technical advice or assistance at a hazardous substance release incident to the individual in charge, shall receive training or demonstrate competency in the area of their specialization annually.

(6) *Training.* Training shall be based on the duties and function to be performed by each responder of an emergency response organization. The skill and knowledge levels required for all new responders, those hired after the effective date of this standard, shall be conveyed to them through training before they are permitted to take part in actual emergency operations on an incident. Employees who participate, or are expected to participate, in emergency response, shall be given training in accordance with the following paragraphs:

(i) *First responder awareness level.* First responders at the awareness level are individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release. They would take no further action beyond notifying the authorities of the release. First responders at the awareness level shall have sufficient training or have had sufficient experience to objectively demonstrate competency in the following areas:

(A) An understanding of what hazardous substances are, and the risks associated with them in an incident.

(B) An understanding of the potential outcomes associated with an emergency created when hazardous substances are present.

(C) The ability to recognize the presence of hazardous substances in an emergency.

(D) The ability to identify the hazardous substances, if possible.

(E) An understanding of the role of the first responder awareness individual in the employer's emergency response plan including site security and control and the U.S. Department of Transportation's Emergency Response Guidebook.

(F) The ability to realize the need for additional resources, and to make appropriate notifications to the communication center.

(ii) *First responder operations level.* First responders at the operations level are individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures. First responders at the operational level shall have received at least eight hours of training or have had sufficient experience to objectively demonstrate competency in the following areas in addition to those listed for the awareness level and the employer shall so certify:

(A) Knowledge of the basic hazard and risk assessment techniques.

(B) Know how to select and use proper personal protective equipment provided to the first responder operational level.

(C) An understanding of basic hazardous materials terms.

(D) Know how to perform basic control, containment and/or confinement operations within the capabilities of the resources and personal protective equipment available with their unit.

(E) Know how to implement basic decontamination procedures.

(F) An understanding of the relevant standard operating procedures and termination procedures.

(iii) *Hazardous materials technician.* Hazardous materials technicians are individuals who respond to releases or potential releases for the purpose of stopping the release. They assume a more aggressive role than a first responder at the operations level in that

they will approach the point of release in order to plug, patch or otherwise stop the release of a hazardous substance. Hazardous materials technicians shall have received at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas and the employer shall so certify:

(A) Know how to implement the employer's emergency response plan.

(B) Know the classification, identification and verification of known and unknown materials by using field survey instruments and equipment.

(C) Be able to function within an assigned role in the Incident Command System.

(D) Know how to select and use proper specialized chemical personal protective equipment provided to the hazardous materials technician.

(E) Understand hazard and risk assessment techniques.

(F) Be able to perform advance control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available with the unit.

(G) Understand and implement decontamination procedures.

(H) Understand termination procedures.

(I) Understand basic chemical and toxicological terminology and behavior.

(iv) *Hazardous materials specialist.* Hazardous materials specialists are individuals who respond with and provide support to hazardous materials technicians. Their duties parallel those of the hazardous materials technician, however, those duties require a more directed or specific knowledge of the various substances they may be called upon to contain. The hazardous materials specialist would also act as the site liaison with Federal, state, local and other government authorities in regards to site activities. Hazardous materials specialists shall have received at least 24 hours of training equal to the technician level and in addition have competency in the following areas and the employer shall so certify:

(A) Know how to implement the local emergency response plan.

(B) Understand classification, identification and verification of known and unknown materials by using advanced survey instruments and equipment.

(C) Know of the state emergency response plan.

(D) Be able to select and use proper specialized chemical personal protective equipment provided to the hazardous materials specialist.

(E) Understand in-depth hazard and risk techniques.

(F) Be able to perform specialized control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available.

(G) Be able to determine and implement decontamination procedures.

(H) Have the ability to develop a site safety and control plan.

(I) Understand chemical, radiological and toxicological terminology and behavior.

(v) *On scene incident commander.* Incident commanders, who will assume control of the incident scene beyond the first responder awareness level, shall receive at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas and the employer shall so certify:

(A) Know and be able to implement the employer's incident command system.

(B) Know how to implement the employer's emergency response plan.

(C) Know and understand the hazards and risks associated with employees working in chemical protective clothing.

(D) Know how to implement the local emergency response plan.

(E) Know of the state emergency response plan and of the Federal Regional Response Team.

(F) Know and understand the importance of decontamination procedures.

(7) *Trainers.* Trainers who teach any of the above training subjects shall have satisfactorily completed a training course for teaching the subjects they are expected to teach, such as the courses offered by the U.S. National Fire Academy, or they shall have the training and/or academic credentials and instructional experience necessary to demonstrate competent instruction.

lional skills and a good command of the subject matter of the courses they are to teach.

(8) *Refresher training.* (i) Those employees who are trained in accordance with paragraph (q)(6) of this section shall receive annual refresher training of sufficient content and duration to maintain their competencies, or shall demonstrate competency in those areas at least yearly.

(ii) A statement shall be made of the training or competency, and if a statement of competency is made, the employer shall keep a record of the methodology used to demonstrate competency.

(9) *Medical surveillance and consultation.* (i) Members of an organized and designated HAZMAT team and hazardous materials specialists shall receive a baseline physical examination and be provided with medical surveillance as required in paragraph (f) of this section.

(ii) Any emergency response employees who exhibits signs or symptoms which may have resulted from exposure to hazardous substances during the course of an emergency incident, either immediately or subsequently, shall be provided with medical consultation as required in paragraph (f)(3)(ii) of this section.

(10) *Chemical protective clothing.* Chemical protective clothing and equipment to be used by organized and designated HAZMAT team members, or to be used by hazardous materials specialists, shall meet the requirements of paragraphs (g) (3) through (5) of this section.

(11) *Post-emergency response operations.* Upon completion of the emergency response, if it is determined that it is necessary to remove hazardous substances, health hazards, and materials contaminated with them (such as contaminated soil or other elements of the natural environment) from the site of the incident, the employer conducting the clean-up shall comply with one of the following:

(i) Meet all of the requirements of paragraphs (b) through (c) of this section; or

(ii) Where the clean-up is done on plant property using plant or workplace employees, such employees shall

have completed the training requirements of the following: 29 CFR 1910.38(a); 1910.134; 1910.1200, and other appropriate safety and health training made necessary by the tasks that they are expected to be performed such as personal protective equipment and decontamination procedures. All equipment to be used in the performance of the clean-up work shall be in serviceable condition and shall have been inspected prior to use.

APPENDICES TO §1910.120—HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE

NOTE: The following appendices serve as non-mandatory guidelines to assist employees and employers in complying with the appropriate requirements of this section. However paragraph 1910.120(g) makes mandatory in certain circumstances the use of Level A and Level B PPE protection.

APPENDIX A TO §1910.120—PERSONAL PROTECTIVE EQUIPMENT TEST METHODS

This appendix sets forth the non-mandatory examples of tests which may be used to evaluate compliance with §1910.120 (g)(4) (II) and (III). Other tests and other challenge agents may be used to evaluate compliance.

A. Totally-encapsulating chemical protective suit pressure test

1.0—Scope

1.1 This practice measures the ability of a gas tight totally-encapsulating chemical protective suit material, seams, and closures to maintain a fixed positive pressure. The results of this practice allow the gas tight integrity of a totally-encapsulating chemical protective suit to be evaluated.

1.2 Resistance of the suit materials to permeation, penetration, and degradation by specific hazardous substances is not determined by this test method.

2.0—Definition of terms

2.1 *Totally-encapsulated chemical protective suit (TECP suit)* means a full body garment which is constructed of protective clothing materials; covers the wearer's torso, head, arms, legs and respirator; may cover the wearer's hands and feet with tightly attached gloves and boots; completely encloses the wearer and respirator by itself or in combination with the wearer's gloves and boots.

2.2 *Protective clothing material* means any material or combination of materials used in an item of clothing for the purpose of isolating parts of the body from direct contact with a potentially hazardous liquid or gaseous chemicals.

2.3 *Gas tight* means, for the purpose of this test method, the limited flow of a gas under pressure from the inside of a TECP suit to

Appendix J

Required Spill Notification Times Defined
Under 310 CMR

REQUIRED SPILL NOTIFICATION TIMES AS DEFINED IN 310 CMR															
REQUIRED NOTIFICATION TIME TO STATE	CRITERIA FOR SPILLS OF OIL AND HAZARDOUS SUBSTANCES														
2 HOURS	1. Quantity released greater than reportable quantity (10 gallons for items on project) which occurred within 24 hours or less														
	2. Quantity is unknown but likely to be reportable quantity (10 gallons) or greater														
	3. The appearance of a sheen (iridescent appearance of any oil or waste oil on the surface of any river, stream, lake, pond, spring, impoundment, estuary, or groundwater)														
	4. Detection of reportable quantity (1 mg/l or 1 ppm total petroleum hydrocarbons) or greater in a private drinking water supply well														
	<p>5. Any quantity which could pose or poses an imminent hazard as defined:</p> <ul style="list-style-type: none"> - release which results in oil/hazardous material vapors within buildings or underground utility conduits at a concentration equal to or greater than 10% of lower explosive limit as measured by combustible gas indicator (CGI) etc. - release of reactive or explosive material - release to roadway which endangers public safety - release which poses adverse impacts to fresh water or saltwater fish populations - measurement of the following or greater within a depth of six inches below the ground surface at any location within 500 feet of a residential dwelling, school, playground, recreation area, or park, unless access by children is controlled by physical barrier: <table> <tr> <td>Arsenic (total)</td><td>40 ug/g</td></tr> <tr> <td>Cadmium (total)</td><td>60 ug/g</td></tr> <tr> <td>Chromium (VI)</td><td>10,000 ug/g</td></tr> <tr> <td>Cyanide (available)</td><td>100 ug/g</td></tr> <tr> <td>Mercury (total)</td><td>300 ug/g</td></tr> <tr> <td>Methyl Mercury</td><td>10 ug/g</td></tr> <tr> <td>PCB total)</td><td>10 ug/g</td></tr> </table>	Arsenic (total)	40 ug/g	Cadmium (total)	60 ug/g	Chromium (VI)	10,000 ug/g	Cyanide (available)	100 ug/g	Mercury (total)	300 ug/g	Methyl Mercury	10 ug/g	PCB total)	10 ug/g
Arsenic (total)	40 ug/g														
Cadmium (total)	60 ug/g														
Chromium (VI)	10,000 ug/g														
Cyanide (available)	100 ug/g														
Mercury (total)	300 ug/g														
Methyl Mercury	10 ug/g														
PCB total)	10 ug/g														

REQUIRED SPILL NOTIFICATION TIMES AS DEFINED IN 310 CMR	
REQUIRED NOTIFICATION TIME TO STATE	CRITERIA FOR SPILLS OF OIL AND HAZARDOUS SUBSTANCES
2 HOURS	6. Release of any quantity of oil/hazardous material that is directly discharged to stormwater drainage or sanitary sewage system
	7. Threat of release which is about to occur and quantity would be reportable (10 gallons) or greater
	8. Threat of release which would pose imminent hazard as defined in 5 above, regardless of quantity
	-
72 HOURS	1. Release indicated by subsurface Non-Aqueous Phase Liquid (NAPL), excluding non-recurring sheens
	2. Release indicated by presence of oil/petroleum products adjacent to underground storage tank, if total organic vapors "as benzene", measured by a flame ionization detector, is equal to at least 50 parts per million
	3. Release of reportable concentration (1 mg/l or 1 ppm total petroleum hydrocarbons) indicated by measurement in groundwater within Zone I (protective radius, defined by pump tests for each well) of public water supply well or within 500 feet of a private water supply well
	4. Release to groundwater indicated by measurement of at least 5 mg/l total volatile organic compounds at point within 30 feet of school or occupied residential structure where groundwater table is less than 15 feet below ground surface
	5. Threat of spill from underground storage tank, if leak is likely to be 0.05 gallons per hour in single wall tank, 0.05 gallons per hour in inner wall of double-walled tank, or any leak in the outer wall of double-walled tank

REQUIRED SPILL NOTIFICATION TIMES AS DEFINED IN 310 CMR

REQUIRED NOTIFICATION TIME TO STATE	CRITERIA FOR SPILLS OF OIL AND HAZARDOUS SUBSTANCES
120 DAYS	<p>1. Release of oil/hazardous materials indicated by measurement in soil above reportable concentrations listed below</p> <ul style="list-style-type: none"> - within 500' of a residential dwelling, residentially zoned property, school, playground, recreational area or park RC = 500 mg/kg total petroleum hydrocarbons (TPH) - if not within limits above then RC = 2500 mg/kg total petroleum hydrocarbons
	<p>2. Release of oil/hazardous materials to groundwater indicated by measurement in groundwater of amount equal to or greater than reportable concentrations listed below</p> <ul style="list-style-type: none"> - within Zone II (area which contributes water to well under most severe pumping and recharge conditions, determined by pump tests for each well) for public water supply - within Interim Wellhead Protection Area for a public water supply - within all potentially productive aquifers - within zone A (500 feet laterally from bank) of Class A surface water body used as a public water supply - within 500 feet of public water supply well: RC = 1 mg/l or 1 ppm - if not within limits above then RC = 50 mg/l or 50 ppm

Appendix K

Oil Storage Tank Inspection Log Sheet

Above Ground Oil Storage Tank Inspection Log Sheet

Date:								
		Inspected tanks at:						
<u>AST</u>	<u>Location/Description</u>	<u>Secondary Containment</u>	<u>Seams</u>	<u>Rivets</u>	<u>Nozzle Connections</u>	<u>Valves</u>	<u>Pumps</u>	<u>Piping</u>
EL2	Former Operator's House (275 gal)							
Comments:								

Inspected by: _____
 Lab Director: _____

Appendix L

Training Log Sheet

Training Log Sheet

Employee:			
<u>Training</u>	<u>Employee Initials</u>	<u>Date Training Completed</u>	<u>Lab Director Initials</u>
Annual SPCCP Review			
Prevention, Containment, and Retrieval Methods			
Inspection Procedures			
Operation and Maintenance of Equipment Used to Prevent Spills			
Review of Regulations			
Comments:			

Appendix M

Massachusetts Department of Environmental Protection
Oil and Hazardous Material Incident Reports

Appendix N

Title 310, CMR, 1995 rev, Part 30.253;
Generator Standards Governing Waste Oil and Used Fuel Oil

(This information is available at the laboratory and may be
included in this plan at the discretion of the Directory)

Appendix O

Recommendations

RECOMMENDATIONS

The following recommendations resulted from an inspection of the Environmental Laboratory by the Environmental Engineering and Hydraulics Branch on 27 January 1997. This inspection determined the spill response and control resources at the laboratory, and the basis of the Spill Contingency Plan.

a. Hazardous substances (for the purpose of this plan) should be maintained below the MA DEP's Reportable Quantity thresholds. By doing this, the chance of a reportable spill occurring is greatly reduced. This action will also allow all flammable substances to be stored in flammable storage cabinets. These cabinets have secondary containment structures that are approved under 29 CFR 1910.106(d)(3). Quantities stored in these flammable storage cabinets should not exceed the secondary containment of the cabinets.

b. Currently, the flammable storage cabinets in the hazardous storage garage and former dam operators quarters are not ventilated. Vapors from a spill of chemicals stored in the cabinet could build up and reach concentration levels at or above the lower explosive limit (LEL). Under NFPQ 30, Flammable and Combustible Liquids Code, flammable storage cabinets are not required to be vented. However, if a spill occurs, vapors generated within the cabinet must have some way of being dispersed. EM 385-1-1, section 09.B.07 states that there shall be "ventilation adequate to prevent the accumulation of flammable vapors to hazardous levels.... in all areas where flammable and combustible liquids are handled or used." Since both garages are not well-ventilated, it is recommended that the flammable storage cabinets be ventilated to the outside.

c. A formal training program should be developed to fulfill the requirements mentioned in paragraph 13 of this plan. This program should be developed by the Laboratory Director and Chemical Hygiene Officer.

Appendix P

Glossary

GLOSSARY

Abbreviations:

AST	-Above Ground Storage Tank
CERCLA	-Comprehensive Environmental Response, Compensation and Liability Act
CFR	-Code of Federal Regulations
CWA	-Clean Water Act
DEP	-Department of Environmental Protection
EPA	-Environmental Protection Agency
FWPCA	-Federal Water Pollution Control Act
LEL	-Lower Explosive Limit
MSDS	-Material Safety Data Sheets
NAPL	-Non-Aqueous Phase Liquid
NED	-New England Division
NFPA	-National Fire Protection Association
NGVD	-National Geodetic Vertical Datum
RC	-Reportable Concentration
RQ	-Reportable Quantity
SCP	-Spill Contingency Plan
SPCCP	-Spill Prevention, Control and Countermeasures Plan
USACE	-U.S. Army Corps of Engineers
UST	-Underground Storage Tank

Terms:

Discharge: A term that includes, but is not limited to, the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of a substance, into or on any land or water, but excludes discharges in compliance with a

United States and Canada. The datum was completed in 1929. It was formerly called "Sea Level Datum of 1929". The datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, but it does not necessarily represent local mean sea level at any particular place.

Oil: Oil of any kind or in any form, including but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil.

Reportable Concentration: The threshold (minimum) concentration in soil or groundwater which requires notification to the DEP.

Reportable Quantity: The threshold (minimum) quantity for a CERCLA hazardous substance spill established in Table 302.4 of 40 CFR part 302.

Secondary Containment: Any measure which will retain a spill of the entire contents of the primary container for a sufficient period so that it can be collected or removed without contaminating the environment. Containment must be sufficiently impermeable to contain any spilled material and is normally sized for additional freeboard to allow for precipitation. Any spill that would occur on an impervious surface (concrete floor or bituminous parking lot) that did not contaminate the environment would be within secondary containment. Secondary containment includes basins, berms, catchment areas, curbing, dikes, drip pans, relief vessels, retaining walls, vaults, and similar devices.

Sheen: An iridescent appearance on the surface of water, normally caused by the presence of oil.

Spill: A generic term which encompasses the accidental and deliberate but unpermitted discharge or release of a pollutant.

Appendix Q

References

REFERENCES

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ER 1130-2-434, July 1985, Response to Oil and Hazardous Substance Incidents

USACE Operated Facilities Environmental Compliance Guidance Letter No. 2, Spill Planning and Response Requirements

NFPA 30, 1990 Edition, Flammable and Combustible Liquids Code

Appendix R

Amendments/Changes to SPCCP/SCP